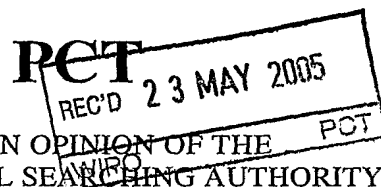


PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Applicant's or agent's file reference 21087.0026P1		Date of mailing (day/month/year) 20 MAY 2005
FOR FURTHER ACTION See paragraph 2 below		
International application No. PCT/US04/06360	International filing date (day/month/year) 02 March 2004 (02.03.2004)	Priority date (day/month/year) 10 March 2003 (10.03.2003)
International Patent Classification (IPC) or both national classification and IPC IPC(7): A 61 B 5/05 and US Cl.: 600/407,410,425,436; 382/131; 606/130; 378/21,23		
Applicant UNIVERSITY OF IOWA RESEARCH FOUNDATION		

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	Authorized officer William C. Jung Telephone No. 571-272-4739
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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US04/06360

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

☐ a sequence listing

☐ table(s) related to the sequence listing

b. format of material

☐ in written format

☐ in computer readable form

c. time of filing/furnishing

☐ contained in international application as filed.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US04/06360

Box No. II Priority

1. ☐ The following document has not yet been furnished:

☐ copy of the earlier application whose priority has been claimed (Rules 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rules 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☒ This opinion has been established as if no priority has been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

The priority claim has been found invalid because the filing date of the priority application is outside the time period provided in PCT Rule 4.10.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US04/06360

Box No. V Reasoned statement under Rule 43 *bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>NONE</u>	YES
	Claims <u>1-30</u>	NO
Inventive step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-30</u>	NO
Industrial applicability (IA)	Claims <u>1-30</u>	YES
	Claims <u>NONE</u>	NO

2. Citations and explanations:

Claims 1-30 lack novelty under PCT Article 33(2) as being anticipated by Grzeszczuk et al (US 2002/0077543 A1).

Grzeszczuk et al anticipate all claimed features in claims 1-30. Grzeszczuk et al disclose a method and apparatus where an image of an object is reconstructed from first imaging system such as CT, MRI, PET (column 1, lines 53-60) with optical imaging component 18 applied to reconstructed images to provide surface mapping (column 3, line 42 - column 4, line 38; column 5, line 4 - column 6, line 18). The images obtained from the CT, MRI, PET, etc. are in three-dimensional images (column 1, lines 53-60). The C-arm of a CT imager as shown in figure 1 changes the angel of the scan to iterate the image acquisition procedure (see block diagram on figure 3) where the image reconstruction requires iterative image registration. In addition, the optical signals uses position sensor 20 shown in figure 1.